

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A scheduler device for scheduling the transmission of data from a plurality of queues in a source node to a plurality of destination nodes via a plurality of outlet ports ~~from of said source node, each of said outlet ports being associated with a resource among a plurality of resources, the data being transmitted via said resource to at least one of said plurality of destination nodes, each of said plurality of destination nodes receiving data from all or some of said plurality of resources,~~ said scheduler device comprising:

a plurality of servers, ~~each of said plurality of servers being associated with a respective one of the a plurality of resources and each of said servers comprising~~ each comprising a scheduler module which is independent for each of said servers,

wherein each of said outlet ports is associated with a respective one of said plurality of resources,

wherein the data is transmitted from a source node to a destination node via an outlet port and a corresponding resource,

wherein at least one of said plurality of resources is used for transmitting data to more than one of said plurality of destination nodes, and

wherein at least one of said plurality of resources is used for transmitting data to a subset of the plurality of destination nodes.

2. (previously presented): A scheduler device according to claim 1, wherein said scheduler module comprises a plurality of stages corresponding respectively to a plurality of scheduling schemes using different criteria.

3. (previously presented): A scheduler device according to claim 1, wherein said scheduling module comprises a cyclical scheduling module of the round robin type.

4. (previously presented): A scheduler device according to claim 1, wherein said scheduling module comprises a weighted fair queuing (WFR) scheduling module .

5. (previously presented): A scheduler device according to claim 1, wherein said scheduling module is dependent on a set of static and/or dynamic weights.

6. (previously presented): A scheduler device according to claim 1, wherein said scheduler module is dependent on a first set of weights, each of said weights representing the percentage of said resource allocated to each of said nodes of said plurality of nodes.

7. (previously presented): A scheduler device according to claim 5, wherein said scheduler module depends on a second set of weights, each of said weights representing the relative weight of the traffic of each of said nodes relative to the total traffic of the plurality of said nodes.

8. (previously presented): A node comprising a scheduler device according to claim 1, the node comprising a plurality of queues for sending data to a plurality of destination nodes, and a plurality of outlet ports.

9. (previously presented): A data transmission system comprising at least one source node according to claim 1.

10. (new): The scheduler device according to claim 1, wherein each of said scheduler modules schedules the transmission of data on an outlet port associated with a resource that is shared with a destination node of said data.

11. (new): The scheduler device according to claim 1, wherein said source node is a concentrator of a dual bus optical ring network and wherein said plurality of destination nodes are optical packet add/drop multiplexers.

12. (new): The scheduler device according to claim 1, wherein each of said scheduler modules is independent such that each scheduler module takes into account specific features of a respective resource with which respective server of the scheduler module is associated.

13. (new): The scheduler device according to claim 1, wherein said plurality of resources correspond to a transmission capacity for transmitting data.

14. (new): The scheduler device according to claim 13, wherein said plurality of resources correspond to a plurality of wavelengths on an optical transmission line.

15. (new): A scheduler device according to claim 2, wherein said scheduler module comprises:

a flow level scheduler which schedules between competing flows heading for the same outlet port,

a node level scheduler which arbitrates between loads corresponding to different destinations, and

a resource level scheduler which take account of which nodes are connected to which resources.